

NINETEEN NEW SPECIES AND A NEW COMBINATION IN
GUIOA CAV. (SAPINDACEAE).

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SUMMARY

Nineteen new species and one new infraspecific name are proposed for the genus *Guioa* Cav. (Sapindaceae). If available, a leaflet, a petal (inside view), and a fruit were depicted.

DESCRIPTIONS

Guioa asquamosa Welzen, *spec. nov.* — Fig. 2a-c.

Guioa diplopetala similis. Arbor; foliolis ovatis, infra laevibus sine papillis glabris ad sparsissime pilosis, domatiis desunt vel solitariis ad multis sacciformibus; petalorum squamis deminutissimis 0,1-0,3 mm longis sine cristis; disco completo; fructibus c. 1 cm longis, 1-1,4 cm latis, stipite late cuneato, loborum longitudine latitudine circa equali. — *T y p u s*: *Metzner 227* (L, holo), Lesser Sunda Islands, Timor, 1200 m alt., 14-VI-1970.

Guioa elliptica Welzen, *spec. nov.* — Fig. 3a-c.

Arbuscula; foliolis ellipticis, infra dense papillatis (sub)sericeis, domatiis solitariis ad multis sacciformibus; petalorum squamis bene evolutis 0,5-0,7 mm longis, cristis plerumque adsunt breviter stipitatis clavatis; disco incompleto; fructibus 1,2-1,5 cm longis 1,2-1,7 cm latis, stipite gracili, loborum longitudine latitudine circa aequali. — *T y p u s*: *BSIP (Gafui et al.) 16776* (L, holo; iso in BSIP, K; LAE, n.v.), Solomon Islands, Small Nggela, Mockolongo area, 250 ft alt., 22-VII-1969.

Guioa glauca (Labill.) Radlk. var. *vulgaris* Welzen, *nom. nov.*, *stat. nov.* — Fig. 11a-e.

Based on *Guioa glauca* (Labill.) Radlk. f. *trachycalyx* Radlk., Sitzungsber. Math.-Phys. Cl. Königl. Bayer. Akad. Wiss. München 9 (1879) 613. — *T y p u s*: *Balansa 1444* (P, holo), New Caledonia, Bourail, 11-IV-1869. *Guioa glauca* f. *trachycalyx* is hereby lectotypified.

Guioa grandifoliola Welzen, *spec. nov.* — Fig. 4a, b.

Arbor; foliolis ovatis 11–30 cm longis 4–13,5 cm latis, supra plerumque ceraeis, infra laevibus sine papillis glabris, domatiis nullis; petalorum squamis ignotis; disco incompleto; fructibus 1,2–1,6 cm longis 2–2,7 cm latis, stipite late cuneato, lobis longioribus quam latoribus. — *T y p u s*: NGF (*Streimann*) 45154 (L, holo; iso in BRI, K; LAE, n.v.), Papua New Guinea, Morobe Prov., Buso, 10 ft alt., 16-VIII-1970.

Guioa hirsuta Welzen, *spec. nov.* — Fig. 1a–c.

Guioa diplopetala similis. Frutex ad arbuscula; foliolis (ovatis ad) ellipticis, infra laevibus sine papillis hirsutis glandulis multis minutis rubris erectis, domatiis multis marsupiiformibus; petalorum squamis bene evolutis 0,9–1,3 mm longis, crista interdum adest quam apicis bifidae squamae parte; disco completo; fructibus 0,7–1,1 cm longis 0,7–1,5 cm latis, stipite gracili, loborum longitudine latitudine circa aequali. — *T y p u s*: Van Balgooy 3658 (L, holo; iso in K; BO, n.v.), S. Sulawesi, hills W. of Soroako, 425 m alt., 11-VIII-1979.

LEGENDS OF FIGURES 1–20

(All leaflets $\times 0.5$, petals $\times 12.5$, fruits $\times 3$; unless stated differently)

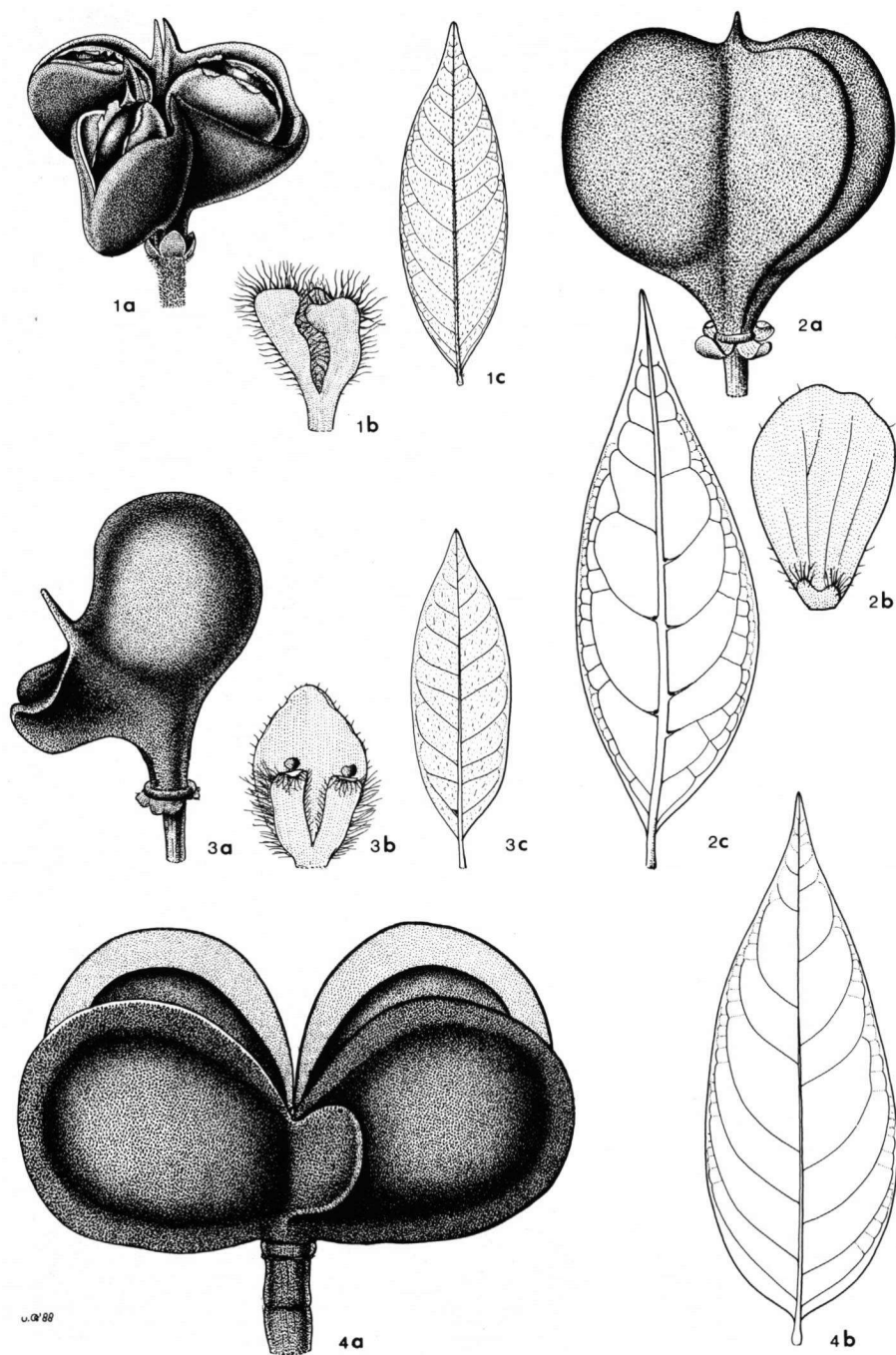
Figs. 1–4. — 1. *Guioa hirsuta*: a. fruit, b. petal, c. leaflet; a & c *Curran* 3426 (A), b *Meijer* 9706 (L). — 2. *G. asquamosa*: a. fruit, b. petal, c. leaflet, $\times 1$; a *Schmutz* 595 (L), b & c *Metzner* 226 (L). — 3. *G. elliptica*: a. fruit, b. petal, c. leaflet; a *Brass* 2884 (BM), b & c *BSIP* 16776 (L). — 4. *G. grandifoliola*: a. fruit, b. leaflet, $\times 0.25$; both NGF 45154 (L).

Figs. 5–10. — 5. *Guioa malukuensis*: leaflet, $\times 1$, *Kostermans* 1275 (L). — 6. *G. normaniensis*: a. leaflet, b. petal, c. fruit; a & b NGF 24061 (L), c *Brass* 25521 (L). — 7. *G. multijuga*: a. leaflet, $\times 1$, b. petal; both *BW* 4061 (L). — 8. *G. punctata*: a. fruit, $\times 2$, b. petal, c. leaflet, $\times 1$; a & c *Bryan* 449 (BISH), b *Parham* 5 (K). — 9. *G. misimaensis*: leaflet, *Brass* 27661 (L). — 10. *G. megacarpa*: a. petal, b. fruit, $\times 1.5$, c. leaflet; a *BSIP* 1670 (L), b & c *BSIP* 216 (BRI).

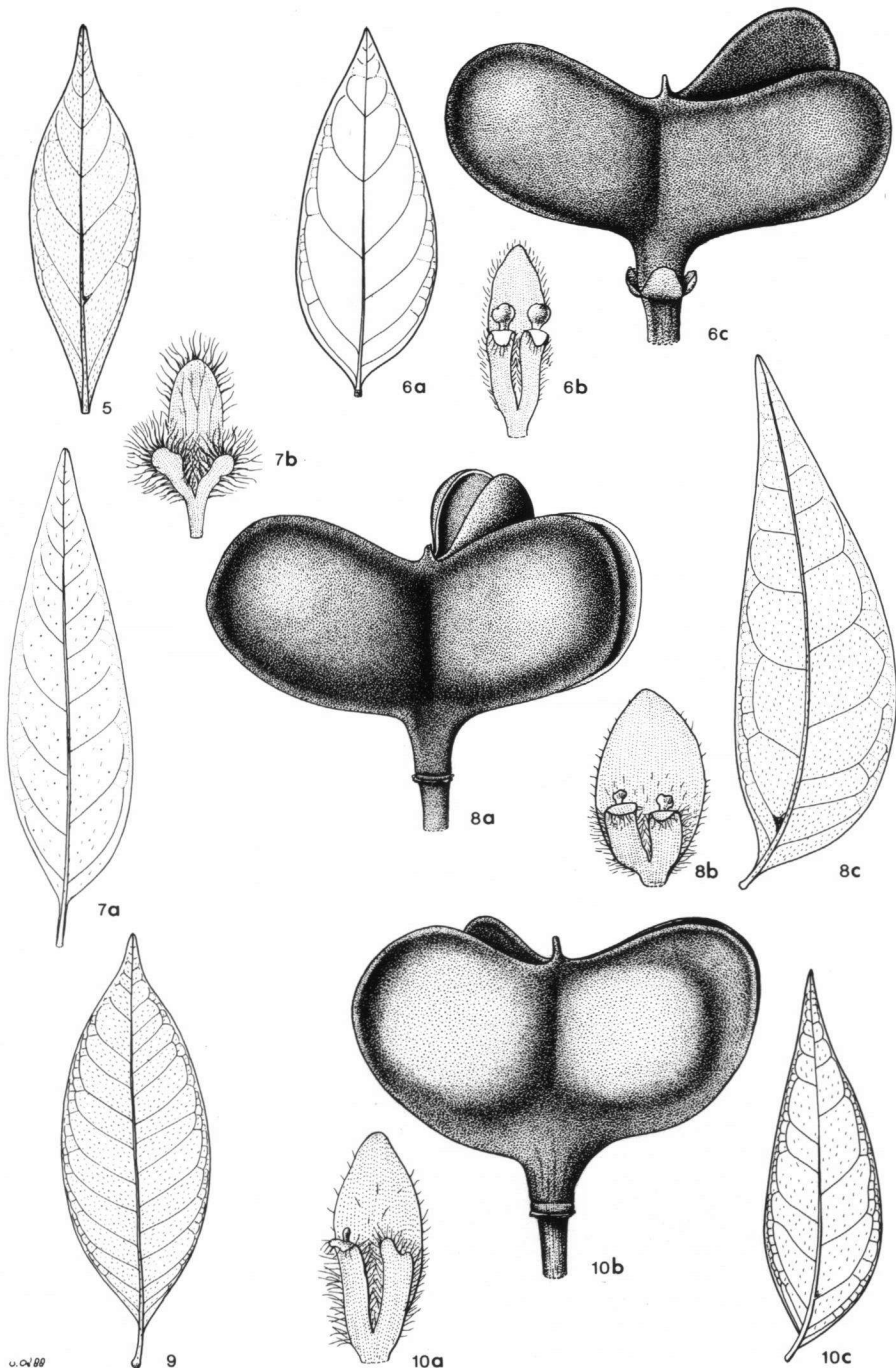
Figs. 11–12. — 11. *Guioa glauca* var. *vulgaris*: a. leaflet, $\times 0.7$, b. petal; var. *glauca*: c. petal, d. fruit, e. leaflet, $\times 0.7$; a *MacKee* 14365 (L), b *MacKee* 28736 (L), c *Balansa* 2843 (M), d & e *Balansa* 2266 (K). — 12. *G. pterorhachis*: a. habit, $\times 0.5$, b. petal; a *SAN* 35445 (L), b *SAN* A 662 (US).

Figs. 13–15. — 13. *Guioa pseudoamabilis*: a. habit, $\times 0.5$, b. fruit, c. petal, d. leaflet, $\times 3$; a & d *Saunders* 802 (L), b *Hartley* 12560 (L), c *Vinas & Bellamy* 261 (L). — 14. *G. novobudaensis*: a. fruit, b. leaflet, $\times 1$, c. petal; a & b *Cabaliou* 2182 (K), c *Morrison s.n.*, 28-V-1896 (L). — 15. *G. palawanica*: a. fruit, b. leaflet; a *BS* 697 (M), b *BS* 562 (M).

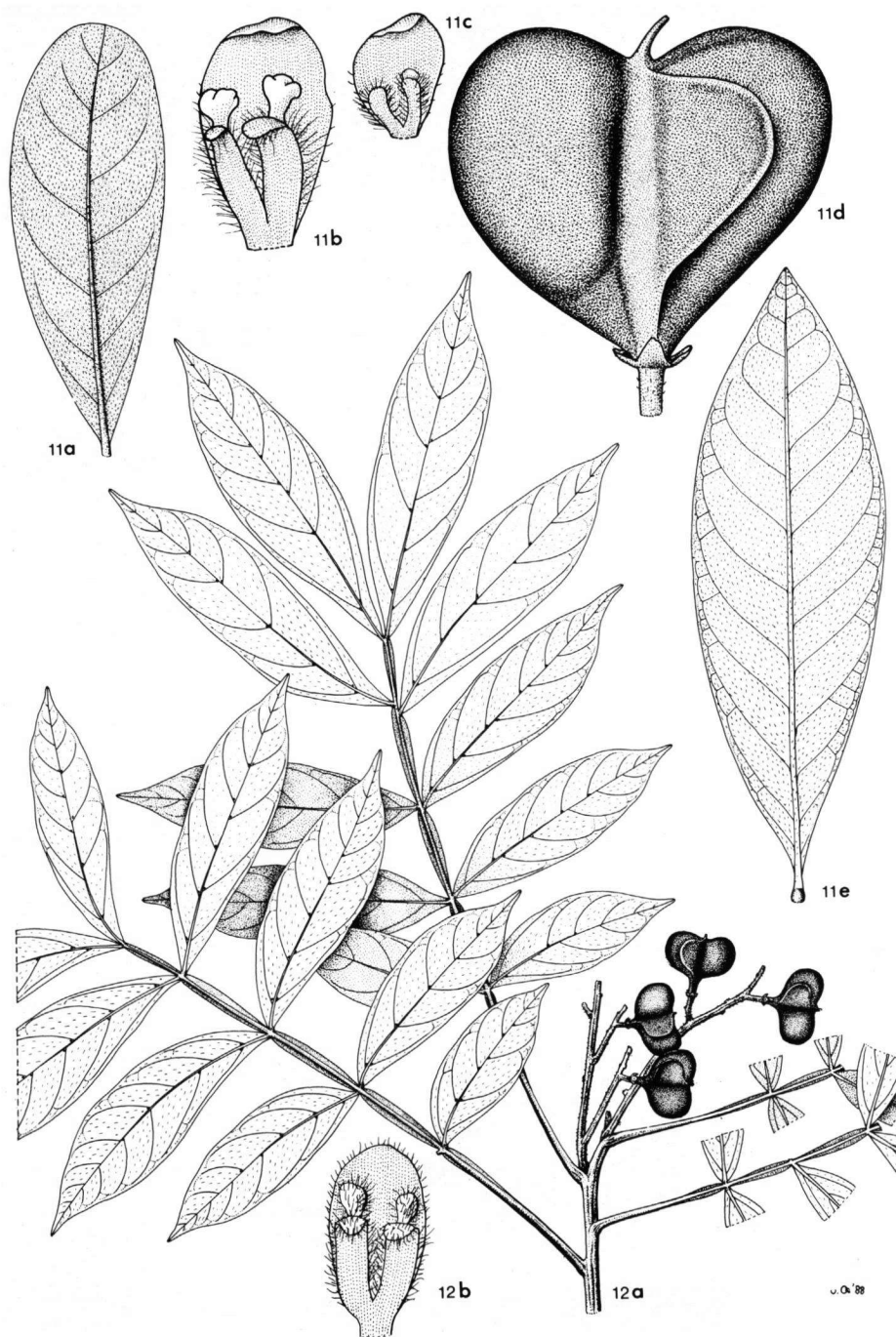
Figs. 16–20. — 16. *Guioa sufusana*: a. petal, b. leaflet, c. fruit; a *BSIP* 3324 (L), b & c *BSIP* 10975 (L). — 17. *G. novobritannica*: a. leaflet, $\times 1$, b. petal; a & b NGF 26918 (L). — 18. *G. unguiculata*: a. petal, b. fruit, $\times 1.5$, c. leaflet; a & c *Vink* 16407 (L), b *Hartley* 12670 (BRI). — 19. *G. waigeoensis*: a. leaflet, $\times 3$, b. young fruit; a & b *van Royen* 5409 (L). — 20. *G. scalariformis*: a. fruit, b. petal, c. leaflet, $\times 0.25$; a & c NGF 21576 (L), b *Hartley* 12459 (L).



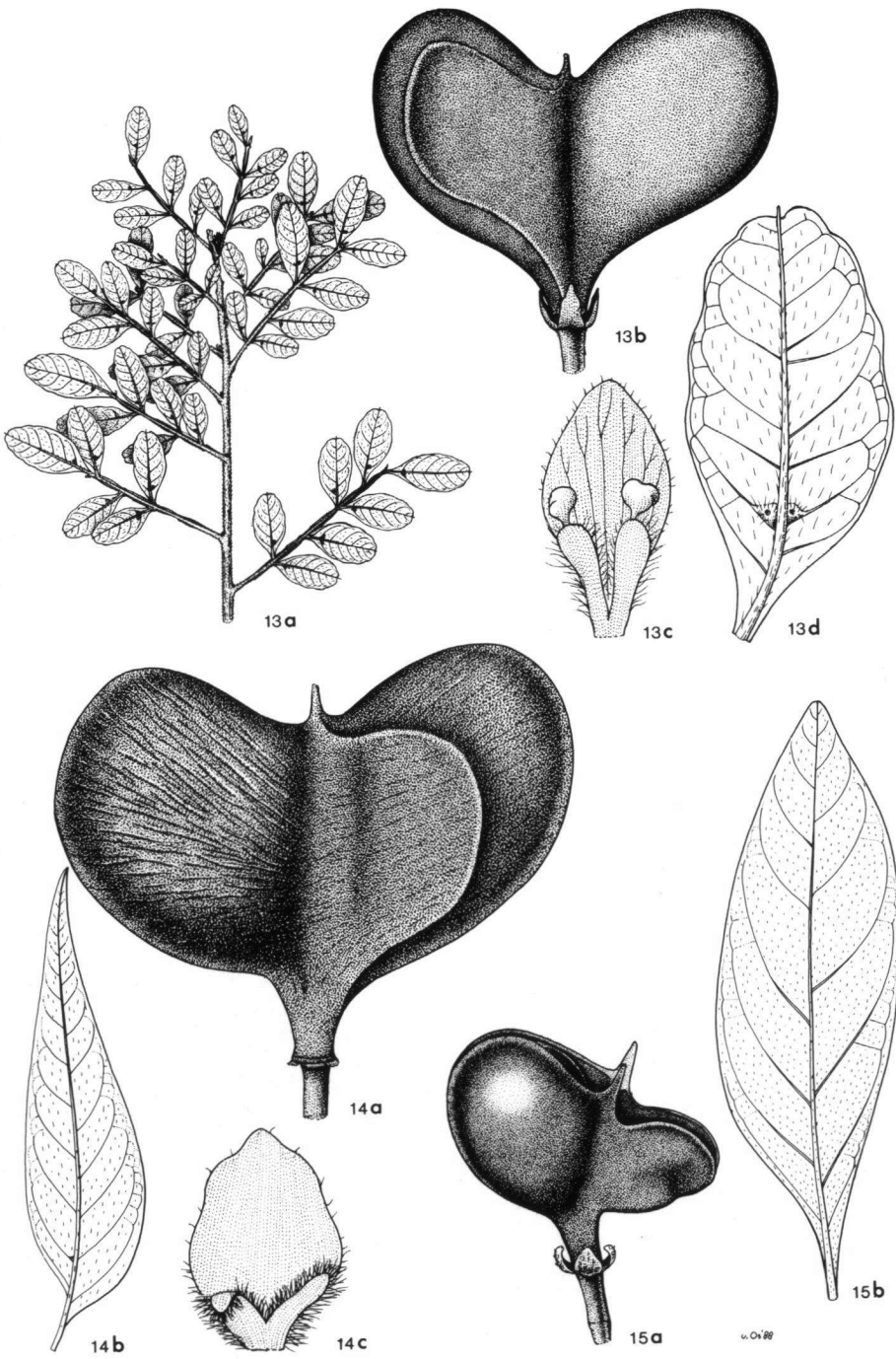
Figures 1-4



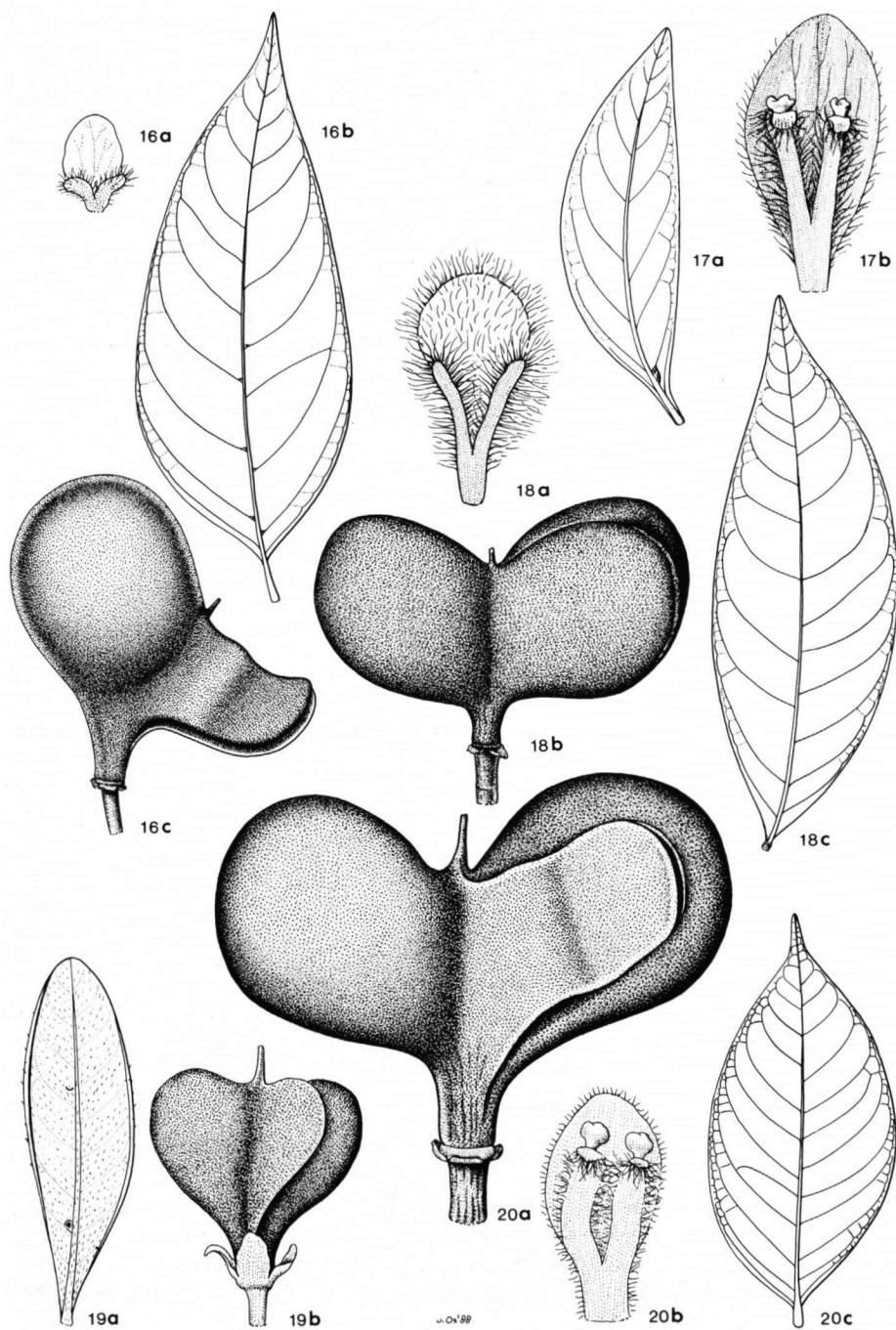
Figures 5-10



Figures 11–12



Figures 13-15



Figures 16–20

***Guioa malukuensis* Welzen, *spec. nov.* — Fig. 5.**

Guioa subsericea similis. Arbor; folii rhachidi parum alata; foliolis ellipticis symmetricis, apice acuminato, infra dense papillatis sericeis, domatiis solitariis ad multis sacciformibus, petalorum squamis quam auriculis marginis evolutis c. 0,4 mm longis, crista deest; disco completo; fructibus ignotis. — T y p u s : *Kostermans 1206* (L, holo; iso in BRI, K, P; BO, n.v.), Moluccas, Morotai, Mt. Parew. 1000 m alt., 27-V-1949.

***Guioa megacarpa* Welzen, *spec. nov.* — Fig. 10a–c.**

Guioa novoebudaensis et *Guioa punctata* similis. Arbor; foliolis ovatis falcatis, infra dense papillatis subsericeis, domatiis solitariis sacciformibus antice aperientibus; petalorum squamis bene evolutis 1,2–1,3 mm longis, crista stipitata clavata plerumque adest; disco completo; fructibus 2,2–2,7 cm longis 2,9–3,9 cm latis, stipite gracili, lobis longioribus quam latioribus. — T y p u s : *BSIP (Leggate) 338* (L, holo; iso in A, CANB, K, LAE; BSIP, n.v.), Solomon Islands, Sta. Cruz group, Vanikoro I., alongside main bush road S.P. 10, 705 ft alt., 24-IV-1960.

***Guioa misimaensis* Welzen, *spec. nov.* — Fig. 9.**

Arbor; foliolis ellipticis symmetricis, infra dense papillatis sericeis, domatiis nullis; petalis immaturis tantum *Guioa rigidiusculae* similibus squamis cristis adsunt; disco incompleto; fructibus ignotis. — T y p u s : *Brass 27661* (L, holo; iso in K; LAE, n.v.), Papua New Guinea, Milne Bay Prov., Misima I., Mt. Quartz, 150 m alt., 8-VIII-1956.

***Guioa multijuga* Welzen, *spec. nov.* — Fig. 7a, b.**

Guioa subsericea similis. Arbuscula; foliis (3–)5–7-jugatis; foliolis ellipticis, infra dense papillatis sparsissime sericeis, domatiis nullis vel solitariis sacciformibus; squamae petalorum bene evolutis c. 1 mm longis liberis externe plicatis, cristis desunt; disco completo; fructibus ignotis. — T y p u s : *BW (Van der Sijde) 4061* (L, holo; iso in K, P; MAN, n.v.), Irian Jaya, Hollandia, 'Dok 5', c. 100 m alt., 5-IX-1956.

***Guioa normanbiensis* Welzen, *spec. nov.* — Fig. 6a–c.**

Arbor; foliolis ovatis, infra laevibus sine papillis glabris ad raro sparsissime sericeis, domatiis solitariis sacciformibus; petalorum squamis bene evolutis 1,2–1,3 mm longis, crista stipitata clavata; disco incompleto; fructibus 1,2–1,5 cm longis 1,3–2,2 cm latis, stipite gracili, lobis longioribus quam latioribus. — T y p u s : *Brass 25521* (L, holo; iso in K), Papua New Guinea, Milne Bay Prov., Esa'ala Subprov., Normanby I., Sewa Bay, 40 m alt., 21-IV-1956.

***Guioa novobritannica* Welzen, *spec. nov.* — Fig. 17a, b.**

Arbor; foliolis ellipticis, infra dense papillatis glabris pilis paucis prope domatium solitarium grandem sacciformem exceptis; petalorum squamis bene evolutis 1,5–1,8 mm longis, crista stipitata clavata; disco incompleto; fructibus ignotis. — *T y p u s*: *NGF (Frodin) 26918* (L, holo; iso in BM, BRI, CANB; LAE, n.v.), Papua New Guinea, West New Britain Prov., Talasea, Mt. Tangis, N.W. slope, 2400 ft alt., 30-V-1966.

***Guioa novoebudaensis* Welzen, *spec. nov.* — Fig. 14a–c.**

Guioa megacarpa et *Guioa punctata* similis. Arbor, foliolis ovatis falcatis, infra dense papillatis subsericeis, domatiis solitariis minutis sacciformibus antice aperientibus; petalorum squamis 0,3–0,7 mm longis, crista deest vel interdum quam enatione; disco incompleto ad completo; fructibus 1,8–2 cm longis 1,8–2,3 cm latis, stipite late cuneato, loborum longitudine latitudine circa aequali. — *T y p u s*: *Bernardi 13284* (L, holo; iso in G, K, M, NY, W), New Hebrides (Vanuatu), Erroman-go I., Baie Dillon (Oupongkor) at Happy Land, 250–329 m alt., 6-VI-1968.

***Guioa palawanica* Welzen, *spec. nov.* — Fig. 15a, b.**

Guioa myriadenia similis. Frutex ad arbor; foliolis ellipticis (ad obovatis) coriaceissimis, apice rotundato ad acuminato, infra dense papillatis sericeis, domatiis nullis vel solitariis sacciformibus; petalorum squamis ignotis; disco incompleto; fructibus 1,2–1,4 cm longis 1,1–1,9 cm latis, stipite gracili, lobis longitudine latitudine circa aequali. — *T y p u s*: *BS (Foxworthy) 697* (L, holo; iso in M), Philippines, Palawan, Mt Victoria, III-1906.

***Guioa pseudoamabilis* Welzen, *spec. nov.* — Fig. 13a–d.**

Guioa amabilis similis. Frutex ad arbor; folii rhachidi paulo alata; foliolis ovatis ad obovatis, margine plerumque leviter crenato ad integro, infra laevibus papillis nullis sericeis, domatiis multis hirsutis sacciformibus; petalorum squamis bene evolutis c. 0,7 mm longis, crista stipitata clavata; disco completo; fructibus 1,1–2 cm longis 1,7–1,9 cm latis, stipite late cuneato, lobis longioribus quam latioribus. — *T y p u s*: *Vinas & Bellamy 261* (L, holo; iso in A, CBG, K, LAE, UPNG, WEI, n.v.), Papua New Guinea, Morobe Prov., 14 km E. of Bulolo, Mt Missim, 2800 m alt., 3-IV-1984. (distributed as *Rapanea vaccinioides*, Myrsinaceae).

***Guioa pterorhachis* Welzen, *spec. nov.* — Fig. 12a, b.**

Guioa pleuropteris similis. Frutex ad arbor; folii rhachidi late alata; foliolis ellipticis (ad obovatis), apice acuminato ad cuspidato, infra dense papillatis subsericeis, domatiis multis sacciformibus, costa plana vix prominenti; petalorum squamis bene evolutis 1,1–2 mm longis, crista quam apicis bifidae squamae parte; disco incom-

pleto ad (sub)completo; fructibus 1,4–1,9 cm longis 1,2–2,2 mm latis, stipite gracili, lobis parum longioribus quam latoribus. — *T y p u s*: *Elmer 20268* (L, holo; iso in BM, K, M, NSW, P), Borneo, Sabah, Myburgh Prov., Sandakan, XII-1921.

***Guioa punctata* Welzen, *spec. nov.* — Fig. 8a–c.**

Guioa megacarpa et *Guioa novoebudaensis* similis. Arbor, foliolis ovatis falcatis, infra dense papillatis subsericeis, domatiis multis grandibus sacciformibus supra aperientibus; petalorum squamis bene evolutis 0,8–1,2 mm longis, crista plerumque adest stipitata clavata; disco completo; fructibus 1,1–2 cm longis 1,2–2,9 cm latis, stipite late cuneato, lobis paulo longioribus quam latoribus. — *T y p u s*: *Greenwood 749* (K, holo), Fiji, Viti Levu, Penang to Ellington, 17-III-1929.

***Guioa scalariformis* Welzen, *spec. nov.* — Fig. 20a–c.**

Frutex ad arbor; foliolis ovatis 12–23 cm longis 6–11 cm latis, infra laevibus glabris, domatiis nullis, venatione fere scalariformi; petalorum squamis bene evolutis c. 1,8 mm longis, crista stipitata clavata; disco completo; fructibus c. 1,8 cm longis 2,3–2,9 cm latis, stipite gracili, lobis longioribus quam latoribus. — *T y p u s*: *NGF (Sayers) 21576* (L, holo; iso in BM, CANB, U; LAE, n.v.), Papua New Guinea, Morobe Prov., Wagau, 5000 ft alt., 11-I-1965.

***Guioa sufusana* Welzen, *spec. nov.* — Fig. 16a–c.**

Arbor; foliolis ovatis ad ellipticis 8,5–18,5 cm longis 2,3–8,5 cm latis, infra dense papillatis subsericeis, domatiis solitariis ad multis sacciformibus; petalorum squamis 0,1–0,5 mm longis, crista nulla; disco completo; fructibus 1,3–1,5 cm longis 1,6–2,1 cm latis, stipite gracilis, lobis longioribus quam latoribus. — *T y p u s*: *BSIP (Lipaeto) 3324* (L, holo; iso in K; BSIP, LAE, n.v.), Solomon Islands, N.E. Gualdacanal, Rere River, c. 3 miles inland, 100 ft alt., 19-XI-1963.

***Guioa unguiculata* Welzen, *spec. nov.* — Fig. 18a–c.**

Arbuscula ad arbor; foliolis ellipticis, infra laevibus papillis nullis (sub)glabris, domatiis nullis; petalorum ungue c. 0,8 mm longo, squamis bene evolutis 1,2–1,5 mm longis, crista plerumque nulla interdum quam apicis bifidae squamae parte; disco (fere) completo; fructibus 1,5–2,2 cm longis 2–2,7 cm latis, stipite gracili, lobis longioribus quam latoribus. — *T y p u s*: *Vink 16407* (L, holo; iso in BRI, K, NSW, P; LAE, n.v.), Papua New Guinea, W. Highlands Prov., Uinba., 1900 m alt., 26-VIII-1963.

***Guioa waigeoensis* Welzen, *spec. nov.* — Fig. 19a, b.**

Arbuscula; folii rhachidi paulo alata; foliolis ellipticis 1,3–2,4 cm longis 0,4–0,6 cm latis, infra dense papillatis sericeis, domatiis solitariis sacciformibus; petalorum

squamis ignotis; disco completo; fructibus c. 1,7 cm longis c. 1,2 cm latis, stipite late cuneato, lobis paulo longioribus quam latoribus. — *T y p u s*: *Van Royen 5409* (L, holo), W. Irian Jaya, Waigeo I., Kambela Hills, S.E. of Kabare, c. 300 m alt., 1-II-1955.

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